

subdivided almost *ad infinitum* into degrees and varieties of those passions. Sight is another bundle. In it we have the sense of light and darkness, of form, of distance, of perspective, the color sense, and so on. The sense of hearing, another, made up of the sense of loudness, of distance, of pitch, of direction, of the musical sense, and so on.

It is needless to extend the catalogue. I do not require to tell any person present (except for the sake of making my statement full and accurate) that the human mind is thus composed of groups of functions having certain definite relations one to the other, just as the fauna and flora of any given country is composed of groups of organisms having certain definite relations one to the other.

The next step in my argument or statement is to point out that as the human mind itself was not always in existence, but at some time or other was born and afterwards grew to what we see to-day, that so each one of these numerous faculties of which it is composed came into existence at some time or other.

And now comes the pivot fact upon which my thesis finally rests, namely, that the faculties in question are not all of the same age, but, on the contrary, some of them are very old (millions of ages), some very young (only a few thousand years), while others are of various ages between the extremes. How do we know this? Well, the length of time the race has been possessed of any given faculty may be estimated from various indications. In cases in which the birth of the faculty belongs to comparatively recent times (as in the case of color sense and the sense of fragrance), philology and human records, as pointed out by Geiger, may assist materially in determining the age of its appearance; but for the comparatively early-appearing faculties, such as the initial intellect, self-consciousness, the sexual instinct, or love of offspring, these means necessarily and obviously fail us. We fall back, then, upon the two following tests:

(1) The age at which the faculty in question appears in the individual, and

(2) The more or less universality of the faculty in the members of the race.

(1) As ontogeny is nothing less than philogeny *in pectus*, that is, as the evolution of the in-

dividual is necessarily a repetition in a condensed form of the evolution of the race, simply because it cannot, in the nature of things, be otherwise—cannot, that is, follow any other lines—there being no other line for it to follow, it is plain that organs and functions (speaking broadly and generally) will appear in the individual in the same order in which they appeared in the race; and the one being known, the other may with considerable confidence be assumed.

(2) When a new faculty appears in a race, it will be found at the very beginning in one individual, and one only, of that race. Later, it will be found in a few individuals; later, in a small percentage of the individual members of the race; later, in half the members, and so on, until, after thousands of generations, an individual who misses having the faculty is regarded as a monstrosity. In illustration of this statement compare, in man, the musical sense (a faculty just coming into existence) with self-consciousness, a faculty perhaps more than ten thousand generations old; or, should it be thought that the facts in these cases are assumed for the purpose of the argument, consider the case of the color sense, the age of which can be approximately fixed by philology. This sense has existed in the race barely a thousand generations, and to-day, in the British Islands, it is said to fail to appear in but one person out of every sixty. The musical sense fails to appear, in the same country, probably in forty persons out of sixty, while self-consciousness, perhaps, does not fail to appear more than a few dozen times in six thousand adult persons.

In order to illustrate how more or less universality in the race, along with the time of appearance in the individual, corresponds with the time of appearance of any given faculty in the race, the following facts may be given:

Self-consciousness appears in the individual at the age of about three years, and is fairly universal in the race. This is the basic human faculty, the faculty which constitutes its possessor man. Our ancestors, before they had this faculty, whatever they were, were not men. But we do not draw the line so sharply now. There are thousands of idiots and imbeciles who never become self-conscious, and there must be many members of low races, such as